Attorney's Docket No. 9052-74 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Derek Priestley et al;;
Serial No.: To Be Assigned
Filed: Concurrently Herewith
For: *COLOUR MATCHING SYSTEM*

August 6, 2001

Commissioner for Patents
Washington, DC 20231

Correspondence Address:

20792
PATENT TRADEMARK OFFICE

PRELIMINARY AMENDMENT

Sir:

Prior to the examination and the calculation of the filing fee for the above-referenced application, please amend and consider the application in view of the following amendments and remarks. Attached hereto is a marked up version of the changes made to the claims and specification by the current amendment. The marked up version of the changes is captioned "**Version With Markings To Show Changes Made**".

In the Specification:

At page 1, line 1, please add the following paragraph and headings.

--Related Applications

This application claims priority from Great Britain application numbers: GB0019297.1 filed on August 7, 2000; GB0027021.5 filed on November 3, 2000; GB0103453.7 filed on February 13, 2001; GB0110197.1 filed on April 26, 2001; GB0113947.6 filed on June 8, 2001, and from United States Provisional Application Nos. 60/255,461 filed on December 13, 2000 and 60/288,592 filed on May 3, 2001,

the disclosures of which are incorporated by reference herein in their entireties.

Field of the Invention—

In the Claims:

Please delete Claims 29, 38, 45 and 52.

Please amend the claims as follows:

4. (Amended) A system according to Claim 2 wherein the camera is provided with cross-polarised filtration so as to produce a cross-polarised image.

5. (Amended) A system according to Claim 2 wherein the camera is pre-set and/or pre-programmed to a specified focal length.

7. (Amended) A system according Claim 2 further including a camera housing assembly for supporting the camera.

10. (Amended) A system according to claim 8 wherein the light source comprises a plurality of light spots.

12. (Amended) A system according to Claim 7 wherein the camera housing assembly further comprises a telescopic member for preventing incidental light entering an image field of shot.

14. (Amended) A system according to Claim 12 wherein the telescopic member, in use, is extended prior to taking an image and is retracted when not in use.

15. (Amended) A system according to Claim 7 wherein the camera housing assembly further

comprises means for assessing distance between the camera and the object to be imaged.

18. (Amended) A system according to Claim 1 further including a reference colour indicator placed in close proximity to the object or associated with the means for taking a coloured image of an object so that the captured image contains a reference colour.

21. (Amended) A system according to Claims 18 wherein the reference colour indicator comprises a substantially U or L shaped block or a sheet or paper.

22. (Amended) A system according to Claim 1 wherein the means for relaying the captured image to a place remote from a location where the image was captured is an electronic communication means.

25. (Amended) A system according to Claim 4, wherein the means for analysing the colour values is a computer software program which is capable of converting the cross-polarised image of the original object into a plurality of colour components.

26. (Amended) A system according to Claim 1 wherein the colour values of the captured image of the original object colour are represented by intensities of red, blue and green colour components.

27. (Amended) A system according to Claim 1 wherein said system is configured for use in colour matching a natural tooth or set of teeth so that a dental prosthesis can be constructed to match the natural tooth of a patient.

32. (Amended) A method according to Claim 30 further including the step of reducing/preventing incidental light from entering a field of shot.

33. (Amended) A method according to Claim 30 further including the step of including a

reference colour indicator with the captured image.

35. (Amended) A method according to Claim 30 further including the step of relaying the colour values back to a location where the original image was captured so that a comparison can be made between the colour of the original object and that of the reconstituted colour image.

36. (Amended) A method according to Claim 30 wherein a VDU is provided at the place where the image was captured and/or where the captured image is relayed for analysis is provided with software for correcting reference colour red, green and blue values on the monitor/screen so that a displayed image on the VDU is colour corrected with respect to the reference colour.

37. (Amended) A method according to Claim 30 further including the step of committing to memory or storing a colour recipe in a central data bank.

38. (Amended) A method according to Claim 30 further including any one or more of the features recited in claims 2 to 26.

39. (Amended) A method according to Claim 30 when used in colour matching a natural tooth or set of teeth with a dental prosthesis.

42. (Amended) A method according to Claim 40 wherein the skeletal reference point is at the bridge of the patient's nose or nap of his/her chin, the nap being formed at the junction of the lower jaw and bottom set of teeth.

43. (Amended) A method according to Claim 39 wherein the camera position with respect to the patient is monitored by aligning horizontal and vertical cross hairs or by a common point when left and right light beams or lasers coincide.

46. (Amended) The system according to Claim 1 wherein the object is one of textiles, paints, dyes, car body parts, cosmetics, hair dyes, skin preparations and pigments in picture restoration.

47. (Amended) The system according to Claim 28, wherein the object is one of precious metals, gems and stones, currency notes, identity pictures/photographs and batch colouring processes.

48. (Amended) The method according to Claim 30, wherein the object is one of textiles, paints, dyes, car body parts, pigments in picture restoration and cosmetics.

49. (Amended) The method according to Claim 44 wherein the object is one of metals, gems and stones, currency notes, identity pictures/photographs and batch colouring processes.

50. (Amended) The system according to Claim 1 wherein the object is a natural tooth.

51.(Amended) The method according to Claim 30, wherein the object is a natural tooth.

53. (Amended) A method according to Claim 30, wherein the image is a part of a body and wherein relaying the image comprises relaying the images to a health care professional remote from a patient so that a diagnosis can be made without the patient needing to be physically present.

54. (Amended) The method according to Claim 52, wherein the object is a subject with a condition where the physical appearance and colour of an organ is a relevant diagnostic factor.

55. (Amended) A dental prosthesis product produced by the method according to Claim 30.

56. (Amended) A method of making a dental prosthesis comprising the steps of:

(i) determining shade variations within a tooth;

(ii) replicating the shade variations in a prosthesis by selecting a match from a predetermined range of ceramics colours for individual areas of the tooth; and

(iii) constructing a prosthesis by painting or otherwise applying different shades of ceramics to a base prosthesis so as to match the colour variations in the tooth.

REMARKS

Attached hereto is a marked-up version of the changes made to the specification by the Preliminary Amendment, which is proffered to place the claims in conformance with U.S. Practice. The attached page is captioned "**Version with markings to show changes made.**"

In light of the foregoing, Applicants submit that the claims now stand in condition for allowance, and respectfully request allowance of the claims and passing of the application to issue.

Respectfully submitted,

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Joyce Paoli
Date: August 6, 2001

Version With Markings To Show Changes Made

In the Specification:

On page 1, line 1, please insert the following paragraph and headings:

--Related Applications

This application claims priority from Great Britain application numbers: GB0019297.1 filed on August 7, 2000; GB0027021.5 filed on November 3, 2000; GB0103453.7 filed on February 13, 2001; GB0110197.1 filed on April 26, 2001; GB0113947.6 filed on June 8, 2001, and from United States Provisional Application Nos. 60/255,461 filed on December 13, 2000 and 60/288,592 filed on May 3, 2001, the disclosures of which are incorporated by reference herein in their entireties.

Field of the Invention--

In the Claims:

4. (Amended) A system according to [either] Claim 2 [or 3] wherein the camera is provided with cross-polarised filtration so as to produce a cross-polarised image.

5. (Amended) A system according to [any one of Claims 2-4] Claim 2 wherein the camera is pre-set and/or pre-programmed to a specified focal length.

7. (Amended) A system according to [any preceding claim] Claim 2 further including a camera housing assembly for supporting the camera.

10. (Amended) A system according to [either] [c]Claim 8 [or 9] wherein the light source comprises a plurality of light spots.

12. (Amended) A system according to [any one of claims 7 to 11] Claim 7 wherein the camera housing assembly further comprises a telescopic member for preventing incidental light entering an image field of shot.

14. (Amended) A system according to [either claim 12 or 13] Claim 12 wherein the telescopic member, in use, is extended prior to taking an image and is retracted when not in use.

15. (Amended) A system according to [any one of claims 7 to 14] Claim 7 wherein the camera housing assembly further comprises means for assessing distance between the camera and the object to be imaged.

18. (Amended) A system according to [any preceding claim] Claim 1 further including a reference colour indicator placed in close proximity to the object or associated with the means for taking a coloured image of an object so that the captured image contains a reference colour.

21. (Amended) A system according to [any one of claims 18 to 20] Claim 18 wherein the reference colour indicator comprises a substantially U or L shaped block or a sheet or paper.

22. (Amended) A system according to [any preceding claim] Claim 1 wherein the means for relaying the captured image to a place remote from a location where the image was captured is an electronic communication means.

25. (Amended) A system according to Claim 4 [or any claim depending therefrom], wherein the means for analysing the colour values is a computer software program which is capable of converting the cross-polarised image of the original object into a plurality of colour components.

26. (Amended) A system according to [any preceding claim] Claim 1 wherein the colour values of the captured image of the original object colour are represented by intensities of red, blue and green colour components.

27. (Amended) A system according to [any preceding claim when used] Claim 1, wherein said system is configured for use in colour matching a natural tooth or set of teeth so that a dental prosthesis can be constructed to match the natural tooth of a patient.

32. (Amended) A method according to [either claim 30 or 31] Claim 30 further including the step of reducing/preventing incidental light from entering a field of shot.

33. (Amended) A method according to [any one of claims 30 to 32] Claim 30 further including the step of including a reference colour indicator with the captured image.

35. (Amended) A method according to [any one of Claims 30 to 34] Claim 30 further including the step of relaying the colour values back to a location where the original image was captured so that a comparison can be made between the colour of the original object and that of the reconstituted colour image.

36. (Amended) A method according to [any one of Claims 30 to 35] Claim 30 wherein a VDU is provided at the place where the image was captured and/or where the captured image is relayed for analysis is provided with software for correcting reference colour red, green and blue values on the monitor/screen so that a displayed image on the VDU is colour corrected with respect to the reference colour.

37. (Amended) A method according to [any one of Claims 30 to 36] Claim 30 further including the step of committing to memory or storing a colour recipe in a central data bank.

39. (Amended) A method according to [any one of Claims 30 to 38] Claim 30 when used in colour matching a natural tooth or set of teeth with a dental prosthesis.

42. (Amended) A method according to [either Claim 40 or 41] Claim 40 wherein the skeletal

reference point is at the bridge of the patient's nose or nap of his/her chin, the nap being formed at the junction of the lower jaw and bottom set of teeth.

43. (Amended) A method according to [any one of claims 39 to 42] Claim 39 wherein the camera position with respect to the patient is monitored by aligning horizontal and vertical cross hairs or by a common point when left and right light beams or lasers coincide.

46. (Amended) (Use of the system] The system according to [any one of Claims 1 to 26 when used for colour matching of] Claim 1, wherein the object is one of textiles, paints, dyes, car body parts, cosmetics, hair dyes, skin preparations and pigments in picture restoration.

47. (Amended) [Use of t] The system according to [any one of claims 28 to 30 when used to identify colour parameters of] Claim 28, wherein the object is one of precious metals, gems and stones, currency notes, identity pictures/photographs and batch colouring processes.

48. (Amended) [Use of t] The method according to [any one of Claims 30 to 38 when used for colour matching of] Claim 30, wherein the object is one of textiles, paints, dyes, car body parts, pigments in picture restoration and cosmetics.

49. (Amended) [Use of t] The method according to [either claim 44 or 45 when used for identifying colour parameters of] Claim 44 wherein the object is one of metals, gems and stones, currency notes, identity pictures/photographs and batch colouring processes.

50. (Amended) [Use of t] The system according to [any one of Claims 1 to 27 when used for the colour matching of] Claim 1, wherein the object is a natural tooth [to a dental prosthesis].

51. (Amended) [Use of t] The method according to [any one of Claims 30 to 43 when used for the colour matching of] Claim 30, wherein the object is a natural tooth to a dental prosthesis.

53. (Amended) [Use of a] A method according to [any one of Claims 30 to 43 when used for capturing images of] Claim 30, wherein the image is a part of a body and wherein relaying [this information] the image comprises relaying the images to a health care professional remote from a patient so that a diagnosis can be made without the patient needing to be physically present.

54. (Amended) [Use of a system and/or] The method according to [either of Claims 52 or 53 when used for diagnosing dermatological lesions and other such conditions] Claim 52, wherein the object is a subject with a condition where the physical appearance and colour of an organ is a relevant diagnostic factor.

55. (Amended) A dental prosthesis product produced by the method according to [any one of Claims 30 to 43] Claim 30.

56. (Amended) A method of making a dental prosthesis [using the system according to any one of claims 1 to 26] comprising the steps of:

([v]i) determining shade variations within a tooth;

([v]ii) replicating the shade variations in a prosthesis by selecting a match from a predetermined range of ceramics colours for individual areas of the tooth; and

([v]iii) constructing a prosthesis by painting or otherwise applying different shades of ceramics to a base prosthesis so as to match the colour variations in the tooth..